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# PP12New 'nature of call' telephone screening tool, employed prior to nhs pathways triage, can accurately identify those later treated for out of hospital cardiac arrest: analysis of sensitivity and specificity using routine ambulance service data

Green, Jonathan

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- **Authors**

[Green, Jonathan](#); Ewings, Sean; Wortham, Richard; Walsh, Bronagh

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- **Abstract**

### **Background**

A new pre-triage emergency medical call screening tool, Nature of Call (NoC), has been introduced into UK ambulance services which employ the NHS Pathways (NHSP) triage system. Its current function is to provide a rapid sieve, differentiating between patients who may need treatment for Out-of-Hospital Cardiac Arrest (OHCA), and therefore require immediate ambulance dispatch, and all other calls, for which ambulance dispatch is withheld whilst further triage is undertaken.

### **Objective**

To evaluate the accuracy of NoC in identifying patients with potentially treatable OHCA or peri-arrest conditions.

### **Methods**

Study of diagnostic accuracy. The sample was a retrospective cohort of consecutive calls to a UK ambulance service, taken over a four-month period. Sensitivity and specificity were determined, comparing allocated priority dispositions with an OHCA Treatment Registry. Context was supplied by the evaluation of subsequent categorisation by NHSP. The accuracy of the combined NoC and NHSP allocations was also investigated.

### **Results**

A total of 1 87 419 emergency calls were received. Of these, 71 373 were allocated both NoC and NHSP priority dispositions and were associated with electronic Patient Clinical Records. 590 (0.8%) of these patients received treatment for OHCA. NoC, sensitivity=77.6% (95% CI 74.1 to 80.8); specificity=86.9% (95% CI 86.6 to 87.1). NHSP, sensitivity=79.2% (95% CI 75.7 to 82.2); specificity=93.4% (93.2 to 93.6). NoC and NHSP combined, sensitivity=84.1% (95% CI 80.9 to 86.8); specificity=95.0% (95% CI 94.8 to 95.3).

### **Conclusions**

NoC and subsequent NHSP call categorisation each achieved relatively high sensitivity for the identification of treated OHCA, predicting similar groups of registry patients (although 6% were identified by NoC alone).

Overall accuracy was enhanced when NoC and subsequent NHSP Results were combined. The unidentified group of treated OHCA patients (16%) present a challenge to the current dispatch system which relies on the early recognition of patients who may require treatment for OHCA.